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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,035	07/03/2002	Gilbert Wolrich	10559-306US1	9914
20985	7590	02/08/2006	EXAMINER	
FISH & RICHARDSON, PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			PAN, DANIEL H	
			ART UNIT	PAPER NUMBER
			2183	

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/070,035

Applicant(s)

WOLRICH ET AL.

Examiner

Daniel Pan

Art Unit

2183

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

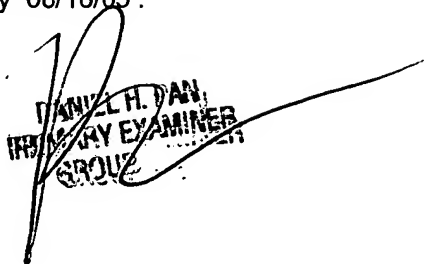
- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/16/05, 02/26/02, 06/04/04, 12/06/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: See Continuation Sheet.

Continuation of Attachment(s) 6). Other: Copy of corrected Office Action Summary 08/16/05 .

  
DANIEL H. DAN  
PATENT EXAMINER  
GROUP

OTHER = attached to current PTO-326

★ Copy of corrected Office Action Summary Office Action Summary 08/16/05	Application No. 10/070,035	Applicant(s) WOLRICH ET AL	
	Examiner Daniel Pan	Art Unit 2183	

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**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06/16/05
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
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- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07/06/05 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
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**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
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- 6) ☐ Other: \_\_\_\_\_

1. Claims 1-20 have been amended and remain for examination.
2. Applicant's arguments on 11/16/05 with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection. The following is a new ground of rejection based on newly amended claims and based on a newly updated internal guidelines. Discussions in response to applicant's remarks will be included in this action for purpose of clarify the issues. Since this action presented a new point of argument by examiner, it is a non-final action in order to treat applicant fairly and allow applicant time to respond. The copy of the correction to set forth the 3 months response period of the action summary of last office action on 08/16/05 is also attached herein with this action for clarification.

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1,19 are rejected under 35 U.S.C. 101 because The reasons are given below.
4. As to claims 1, 19, Claims 1 ,19 are not limited to tangible embodiment. in view of Applicant's disclosure, specification page 2, lines 6-13, the computer program product is not limited to tangible embodiments, instead being defined as including both tangible embodiments (e.g., (microprocessor )) and intangible embodiment ( e.g.

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(internet). Although applicant amended the program product residing on a computer readable medium for causing the execution, no practical application can be found in the claimed invention. The examiner understands the program product being stored in the computer readable medium to cause execution, but the focus is not on whether the steps taken to achieve a particular result is useful, tangible, concrete, but rather the final result is useful, tangible and concrete (page 20 of the internal guideline newly updated on 01/17/06). Claim 1 recites to cause execution, and it is read as a step taken to achieve practical result, but it is not a final result. Claim 1 also recites to branch to an instruction at a specific address at a value of availability of resource, but no substantial practical application can be found in the claim. As such, the claim is not useful, tangible and concrete, and is therefore non-statutory.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Cage (4,454,595).

6. As to claims 1, 19, Cage taught a system including at least:

a) causing an executing instruction stream (see the sequence of code in fig.5a) to branch to an instruction at an a specified address (address not explicitly shown, but see

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the branch to the SER REQUEST command ) if a state or an evaluated state (Y/N 528), of a specified state name (BUFFER AVAIL), the state indicating the availability of a resource (available) of the data processing is a specified value [Y] (see how the program sequence branched to 526 in col.14, lines 1-23, see also the program sequence in fig.5 was contained in program code which was stored in a PROM in col.13, lines 1-6).

7. Cage did not explicitly show his instruction (see the SER REQUEST command) was at a specified address a claimed. However, Cage in the same patent taught the program sequence in fig.5 was contained in program code which was stored in a PROM in col.13, lines 1-6). Therefore, the commands including the SER SERVICE command in the program code must be resided in a specific location in the PROM.

8. Claims 1,10,19, are rejected under 35 U.S.C. 102(b) as being anticipated by Aggarwal et al. (6,275,508)

9. As to claim 1, Aggarwal taught a system including at least :

a) causing an executing instruction stream to branch (see the branch instruction in fig.12) to an instruction at an address specified in the instruction (branch address) if a state , of a specified state name , indicating a resource availability value (see the condition of microengine in col.4, lines 64-67, col.5, lines 1-9) of a specified state name address field) was a specified value (see branch address in col.10, lines 12-31).

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10. As to claims 10, 19, Aggarwal taught :

a) evaluating a value of a specified state name (see the selector of the conditional branch in col.10, lines 20-31 ), the state name indicating available resource (see microengine in 4, lines 64-67, col.5, lines 15-19), and performing a branching operation based on the value of the specified state name being set or cleared (see also the microengine decision on 0 or 1 bit in col.6, lines 56-65).

11. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hasegawa (5,724,563).

12. As to claims 1 , Hasegawa disclosed a decisions on the direction of the instruction processing based on the state or condition (see also fig-s, and fig.10, see also the implicit value Z or C encoded in opcode in Table 1 , col.1 , lines 41-52, see the specific structure of also the teaching of Z and C flags set and reset in col.11, lines 14-40, lines 54-67, col.12, lines 1-5).

13. Hasegawa taught a data processing system including a branch instruction that caused an execution of instruction stream to branch to an instruction at an address (x) specified in the instruction if a state, of a specified name (Z,C), indicating the availability of a resource (see the branch instruction format in fig.2, see the value specified in the branch instruction field , see also fig.5, and fig.10, see also the implicit value Z or C encoded in opcode in Table 1 , col.11, lines 41-52, see also the teaching of Z and C flags set and reset in col.11 , lines 14-40, lines 54-67, col.12, lines 1-5). the parallel processor , see the pipeline processor in fig.6).



14. As to claims 2,3, see the arithmetic flags set or reset in col.11 , lines 19-32).

15. As to the parallel processor , see pipeline processor in fig.6.

16. As to claim 4, Hasegawa also included microengines (see fig.9 instruction register 8, instruction decoder 3 and execution unit 11).

17. As to claim 6, see Branch 3, N in fig.5, see also the encoded branch opcode in Table 1 , for example, the first entry is (Branch on not equal Z). "Branch" being "br inp state" "Z " being the state name, and the X being the label, the number 3 was an optional token.

18. As to claim 5, Hasegawa also specified the number of instructions top execute before performing the branch (see 5g.5 Branch 3, X, see also fig.10).

As to claims 8,9 Hasegaga also included performing the branch based on specified name (see branch on over flow set and branch on overflow clear in Table I, see the flags set and reset in col.I 1, lines 14-35, see also the encoded flags in col.I, lines 42-52). As to the parallel processor , see the pipeline processor in col.5, lines 30-31).

19. As to claims 10,11, 12, 19,20, Hasewaga also evaluated a value of a specified state name, and the value of the state name indicating the available resource (Z flag) and performing a branching operation based on the value (Z=0/1) of the specified state

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name being set or cleared (see Branch 3, N in fig.5, see also the encoded branch opcode in Table 1 , for example, the first entry is (Branch on not equal Z). "Branch" being "br inp state" . "Z", being the state name, and the X being the label, the number 3 was an optional token.

20. As to claim 13, Hasegawa also included a label lxJ as a target filed (see the target address (x) in fig.5).

21. As to claims 14,15, Hasegawa also included an optional field for executing number of instructions before performing the branch (see fig.2 (23), see fig.5 Branch 3 X, see also fig.16, see col.5, lines 55-67, see col.6, lines 24-32). As to the programmer, Hasegawa instruction was also programmable (see the application program set token in col.1, lines 42-44).

22. As to claims 16, Hasegawa also included a register stack (see fig.1 (register file) and a arithmetic unit (not explicitly shown as ALU, but it showed arithmetic calculations in col.1, lines 20-25, col.7, lines 44-52, see the adder in col.7, lines 52-56, fig.1 , see counter section 4 in col.7, lines 8-26 for the increment and decrement, and comparison of the counter, see also the calculation section 7 in col.63-67, col.8, lines 1- 4, and see also the arithmetic result flags in col.11 , lines 25-32). See also the branch on' over flow set and branch on overflow clear in Table 1 for the feature of evaluating the specified value.

23. As to claim 17, Hasegawa did not explicitly show the additional microengine as claimed. However, Hasegawa , in the same patent, taught the parallel processor

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pipeline processor 200) could be implemented in two kinds of hardware having respective different instructions set for use the same program code for both hardware (see col.13, lines 7-12). Therefore, additional hardware (or microengine ) was applicable in Hasegawa.

As to claim 18, Hasegawa also included target field (x) (see fig.5).

24. Claim 1 is rejected under 35 U.S.C. 102 (b) as being anticipated by Dyer et al. (5,640,538).

25. As to claim 1, Dyer taught a branch instruction that caused an execution of instruction stream to branch to an instruction if a state [HRBIT] , of a specified name (see HRBIT), the state indicated the availability of resource (see the sequence of timing mark in col.11, lines 6-8) was a specified value.

26. Additionally, Dyer taught a branch instruction that caused an execution of instruction stream to branch to an instruction at an address (80i) specified in the instruction if a state, of a specified name ( e.g. branch type), the state indicated the availability of resource (see for availability see 0,1, see also branch type 0,1 col.1 1, lines 8-10, see also the state of additional specified name in Table 1, see 5g.8 for the branch instruction format).

Applicant argued that :

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- a) applicant's invention is to decide to branch deadening on a req. FIFO queue has room available to receive another request (see page 7 of applicant's response);
- b) Aggarwal does not teach under what circumstances, or what basis the conditional instruction was performed;
- c) Hasegawa did not teach branch operation depending on the available resource;
- d) Dyer did not teach branching depends on availability of a resource.

27. As to a) above, examiner would like to point out no FIFO queue request regarding the available room or space has been reflected in the claim. applicant is reminded that unclaimed features cannot be used to overcome the prior art (e.g. see CCPA In re Lundenberg & Zuschlag, 113, USPQ 530, 534 (1957)).

28. As to b) , examiner holds that the conditional instruction must have a condition to meet in order to branch.

29. As to c, Hasegawa's Z and C bits were indications of available resource.

30. As to d), Dyer taught a conditional branch on a bit value of high resolution bit to drive the sequence of timing mark (see col.11, lines 6-8). The timing mark was a resource. Dyer also taught branch based on a state name (branch type) , the state indicated the available resource (1,0). Whether branch was conditional or unconditional , it branched if the state was one of the 1,0 branch type values.

31. Cage (4,454,595) is a newly cited art.

32. Aggarwal et al. (6,275,508), Hasegawa (5,724,563), and Dyer et al. (5,640,538) were already cited in the record, therefore, copies are not being provided herein.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Pan whose telephone number is 703 305 9696, or the new number 571 272 4172. The examiner can normally be reached on M-F from 8:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chan, can be reached on 703 305 9712, or the new number 571 272 4162. The fax phone number for the organization where this application or proceeding is assigned is 703 306 5404.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

***21 Century Strategic Plan***

DANIEL H. PAN  
PRIMARY EXAMINER  
GROUP

